

propylene copolymer, wherein the units of said copolymer consist of butylene and propylene.

In the Office Action, claims 2 and 28-29 were initially rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 2, for instance, requires that the second polymeric component comprise polyethylene. It was stated that it was unclear if the polyethylene is in addition to the butylene-propylene copolymer. Applicants note that the second polymeric "component" may comprise the butylene-propylene copolymer as a crimp-enhancement additive that is added to additional polymer(s) of the second polymeric "component", such as polyethylene. (See e.g., Appl. pg. 14).

Furthermore, without commenting on the propriety of the rejection of claims 28-29 under §112, Applicants have nonetheless amended such claims in such a manner it is believed that this rejection is no longer applicable.

Besides the above-mentioned rejections, independent claims 1, 10, 18, and 28 were also rejected in the Office Action under 35 U.S.C. §102(b) in view of U.S. Patent No. 5,382,400 to Pike, et al. Pike, et al. is directed to a fabric that includes continuous multicomponent polymeric filaments comprising a first polymeric component A and a second polymeric component B. (Col 6, lines 3-17). Preferably, polymer component A comprises polypropylene or a random copolymer of propylene and ethylene. Polymer component B preferably comprises polyethylene or a random copolymer of propylene and ethylene. (Col 6, lines 42-46). In one embodiment, Pike, et al. also describes the use of an elastomeric ABA' block copolymer of styrene, ethylene and butylene as a crimp enhancement additive to be added to the polymer component B. (Col 6, lines 47-

62). In order to improve softness, Pike, et al. also discloses adding to polymer component B a copolymer of butylene and ethylene. (Col 7, lines 1-7). It is not clear from Pike, et al. whether the butylene and ethylene copolymer acts as a crimp enhancement additive.

Regardless, however, independent claims 1, 10, 18, and 28 require that the butylene-propylene copolymer used in the crimp enhancement additive "consist of" butylene and propylene monomer units. Nowhere does Pike, et al. disclose the use of such a copolymer. The claimed butylene-propylene copolymer not only utilizes different monomer units than Pike, et al., but also expressly excludes the use of certain monomer units, such as ethylene.

The claimed butylene-propylene copolymer has a wide variety of benefits when used as a crimp enhancement additive. For instance, the butylene-propylene copolymer, when added to a polymer such as polyethylene, is believed to slow the solidification rate and the crystallization rate of the polymer. In this manner, a greater difference in solidification rates is created between the different polymer components used to make the filaments, thereby increasing the latent crimpability of the filaments. (See e.g., Appl. pgs. 15-16). Thus, for at least the reasons set forth above, Applicants respectfully submit that independent claims 1, 10, 18, and 28 are not anticipated by Pike, et al.

In the Office Action, independent claims 1, 10, 18, and 28 were also rejected under 35 U.S.C. §102(b) in view of EP 395,366 to Kaneko, et al. Kaneko, et al. is directed to a nonwoven fabric that contains crimped bi-component composite filaments.

The filaments are composed of two (2) components identified below as "A" and "B":

- (A):
 - (a) 3 to 40% by weight of a propylene/ethylene random copolymer (pg. 2, lines 27-31);
 - (b) 97 to 60% by weight of polyethylene (pg. 2, lines 31-32); and
 - (c) optionally, up to 10 mole % of an alpha-olefin having 4 to 8 carbon atoms (pg. 2, lines 38-39).
- (B):
 - (a) crystalline polypropylene (pg. 2, lines 32-33); and
 - (b) optionally, not more than 30% of another polyolefin (pg. 3, lines 16-17).

In one embodiment, the first component is a "terpolymer" of propylene, ethylene, and an alpha-olefin having 4 to 8 carbon atoms. (pg. 5, lines 30-31).

Thus, as indicated above, Kaneko, et al. expressly requires that the random copolymer contain units of ethylene and propylene. To the contrary, independent claims 1, 10, 18, and 28 all require the crimp enhancement additive to contain a random copolymer, wherein the units of the copolymer consist of butylene and propylene. The claimed copolymer not only utilizes different monomer units than Kaneko, et al., but also expressly excludes the use of ethylene. Thus, for at least this reason, Applicants respectfully submit that independent claims 1, 10, 18, and 28 are not anticipated by Kaneko, et al.

In addition, the above-cited references were also cited to reject dependent claims 2-9, 11-17, 19-23, and 29. Applicants respectfully submit, however, that at least for the reasons indicated above relating to corresponding independent claims 1, 10, 18, and 28, the dependent claims patentably define over the references cited. However, Applicants also note that the patentability of the dependent claims does not necessarily


hinge on the patentability of independent claims 1, 10, 18, and 28. In particular, it is believed that the some or all of these claims may possess features that are independently patentable, regardless of the patentability of claims 1, 10, 18, and 28.

Thus, for at least the reasons set forth above, Applicants respectfully submit that the present claims patentably define over all of the prior art of record and satisfy all of the requirements of 35 U.S.C. §112. It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Juska is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully submitted,

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APPENDIX A

1. (Amended) A process for forming a nonwoven web comprising the steps of:
melt spinning multicomponent filaments, said filaments comprising a first
polymeric component and a second polymeric component, said first polymeric
component having a faster solidification rate than said second polymeric component,
said second polymeric component containing a butylene-propylene copolymer, wherein
the units of said copolymer consist of butylene and propylene;

drawing said multicomponent filaments;

naturally crimping said multicomponent filaments; and

thereafter forming said multicomponent filaments into a nonwoven web.

10. (Amended) A process for forming a nonwoven web comprising the steps of:
melt spinning bicomponent filaments, said bicomponent filaments comprising a
first polymeric component and a second polymeric component, said first polymeric
component comprising polypropylene, said second polymeric component comprising a
mixture of polyethylene and a butylene-propylene copolymer, wherein the units of said
copolymer consist of butylene and propylene;

drawing said bicomponent filaments;

crimping said bicomponent filaments; and

thereafter forming said bicomponent filaments into a nonwoven web.

18. (Amended) A nonwoven web comprising spunbond multicomponent crimped
filaments, said multicomponent crimped filaments being made from at least a first
polymeric component and a second polymeric component, said first polymeric
component having a faster solidification rate than said second polymeric component,

said second polymeric component containing a butylene-propylene random copolymer,
wherein the units of said copolymer consist of butylene and propylene.

28. (Amended) A process comprising [for improving the unbonded strength of a spunbond nonwoven web, said process comprising the steps of]:

incorporating into a first polymeric component a butylene-propylene copolymer,
wherein the units of said copolymer consist of butylene and propylene;

melt spinning multicomponent filaments from said first polymeric component and at least a second polymeric component;

drawing said multicomponent filaments; and

thereafter forming said multicomponent filaments into a nonwoven web wherein said butylene-propylene copolymer is present in said web in an amount sufficient to increase the strength of said web prior to being thermally bonded.